

Claim Amendments

Please cancel all claims and add the following new claims.

--56. (new) An immunological sandwich assay for the detection and/or quantification of human MDA-modified LDL (malondialdehyde-modified low density lipoprotein) in a sample derived from the body fluids or tissues of a human being in which assay a first antibody that has a high affinity for human MDA-modified LDL is bound to a substrate, said assay comprising:

(a) contacting the sample with the substrate having bound to it the first antibody under binding conditions so that at least some of any human MDA-modified LDL in the sample will bind to the first antibody;

(b) thereafter removing unbound sample from the substrate;

(c) thereafter contacting the substrate with a second antibody that has a high affinity for human MDA-modified LDL; and

(d) thereafter visualizing and/or quantifying the MDA-modified LDL that was present in the sample;

wherein the MDA-modified LDL for which the first antibody and the second antibody have high affinity contains at least 60 substituted lysine moieties per apo B-100 (apolipoprotein B-100) moiety.

57. (new) The assay of claim 56 in which the MDA-modified LDL for which the first antibody and the second antibody have high affinity contains at least about 90 substituted lysine moieties per apo B-100 moiety.

58. (new) The assay of claim 56 in which the MDA-modified LDL for which the first antibody and the second antibody have high affinity contains at least about 120 substituted lysine moieties per apo B-100 moiety.

59. (new) The assay of claim 56 in which the MDA-modified LDL for which the first antibody and the second antibody have high affinity contains at least about 210 substituted lysine moieties per apo B-100 moiety.

60. (new) The assay of claim 56 in which the MDA-modified LDL for which the first antibody and the second antibody have high affinity contains at least about 240 substituted lysine moieties per apo B-100 moiety.

61. (new) The assay of claim 56 in which the first antibody also has high affinity for human OxLDL (oxidized low density lipoprotein).

62. (new) The assay of claim 56 in which the first antibody has low affinity for human native LDL (low density lipoprotein).

63. (new) The assay of claim 56 in which the first antibody has low affinity for human OxLDL.

64. (new) The assay of claim 56 in which the second antibody has high affinity for human native LDL.

65. (new) The assay of claim 56 in which the affinity of the first antibody for MDA-modified LDL is at least about $1 \times 10^{10} \text{ M}^{-1}$.

66. (new) The assay of claim 56 in which the affinity of the first antibody for human native LDL is less than about $1 \times 10^6 \text{ M}^{-1}$.

67. (new) The assay of claim 56 in which the affinity of the second antibody for human native LDL is at least about $1 \times 10^9 \text{ M}^{-1}$.

68. (new) The assay of claim 56 in which the first antibody is the monoclonal antibody mAb-4E6 produced by hybridoma Hyb4E6 deposited at the BCCM (Belgian Coordinated Collections of Microorganisms) under deposit accession number LMBP 1660 CB on April 24, 1997.

69. (new) The assay of claim 56 in which the first antibody is the monoclonal antibody mAb-1H11 produced by hybridoma Hyb1H11 deposited at the BCCM under deposit accession number LMBP 1659 CB on April 24, 1997.

70. (new) The assay of claim 56 in which the second antibody is the monoclonal antibody mAb-8A2 produced by hybridoma Hyb8A2 deposited at the BCCM under deposit accession number LMBP 1661 CB on April 24, 1997.

71. (new) The assay of claim 56 in which at least one antibody is capable of detecting 0.02 mg/dl of human MDA-modified LDL in undiluted human plasma.

72. (new) Monoclonal antibody mAb-4E6 produced by hybridoma Hyb4E6 deposited at the BCCM under deposit accession number LMBP 1660 CB on April 24, 1997.

73. (new) Hybridoma Hyb4E6 deposited at the BCCM under deposit accession number LMBP 1660 CB on April 24, 1997.

74. (new) Monoclonal antibody mAb-8A2 produced by hybridoma Hyb8A2 deposited at the BCCM under deposit accession number LMBP 1661 CB on April 24, 1997.

75. (new) Hybridoma Hyb8A2 deposited at the BCCM under deposit accession number LMBP 1661 CB on April 24, 1997.

76. (new) A method of standardizing an assay for human MDA-modified LDL and human OxLDL by using as a calibrator or as a control a stable standard containing MDA-modified LDL whose extent of substitution of its lysine moieties will remain essentially constant over normal periods of time during normal storage for biological materials, the MDA-modified LDL of said standard being made by contacting malondialdehyde with LDL at a predetermined molar ratio of malondialdehyde to the apo B-100 moiety of the LDL, the standard containing an agent that reduces the ability of any metal ions present to catalyze oxidation of the LDL and/or an anti-oxidant.

77. (new) The method of claim 76 wherein the standard contains both an agent that reduces the ability of any metal ions present to catalyze oxidation of the LDL and an anti-oxidant.

78. (new) The method of claim 76 wherein the agent that reduces the ability of any metal ions present to catalyze oxidation of the LDL is a chelating agent.

79. (new) The method of claim 78 wherein the chelating agent is EDTA.

80. (new) The method of claim 76 wherein the anti-oxidant is selected from the group consisting of BHT and Vitamin E.

81. (new) The method of claim 76 wherein the standard further comprises a physiological fluid.

82. (new) The method of claim 81 wherein the physiological fluid is plasma.

83. (new) The method of claim 76 wherein the standard further comprises at least one anti-platelet coagulation compound and/or anti-coagulant.

84. (new) The method of claim 76 wherein the standard is used as a calibrator.

85. (new) The method of claim 76 wherein the standard is used as a control.

86. (new) A kit for conducting a sandwich assay for the determination of human OxLDL or human MDA-modified LDL or both in a sample derived from the body fluids or tissues of a human being, said kit comprising:

(a) a substrate on which is bound a first antibody that has high affinity for human OxLDL or human MDA-modified LDL or both, the OxLDL and MDA-modified LDL each having at least 60 substituted lysine moieties per apo B-100 moiety, and

(b) a labeled antibody having a high affinity for human OxLDL that becomes bound to the first antibody during the assay or for human MDA-modified LDL that becomes bound to the first antibody during the assay or for both that become bound to the first antibody during the assay.

87. (new) The kit of claim 86 further comprising a reactive substance for reaction with the labeled antibody to give an indication of the presence of the labeled antibody.

88. (new) The kit of claim 87 wherein the reactive substance comprises an enzyme.

89. (new) The kit of claim 86 further comprising the calibrator of claim 104.

90. (new) The kit of claim 86 further comprising the control of claim 85.--